

Extrieva - A Low Cost Scalable Archive Storage Management System, Phase I

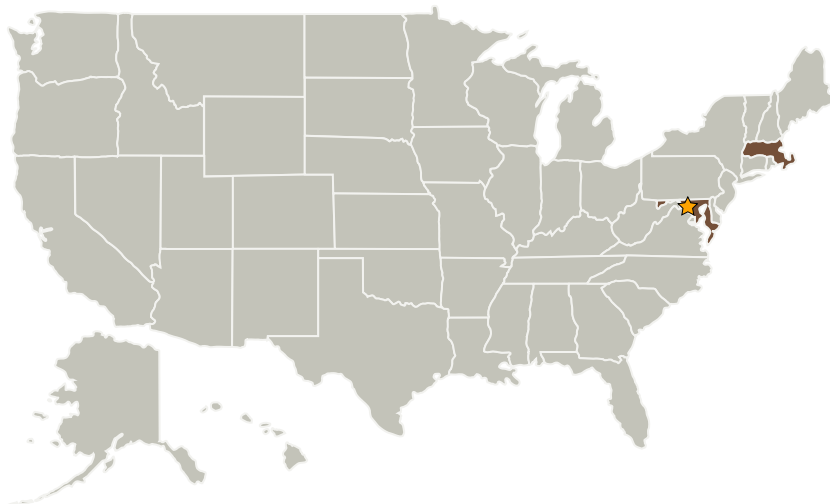
Completed Technology Project (2004 - 2004)



Project Introduction

Locating, summarizing and presenting large collections of Earth science data in a highly distributed and networked environment is critical in NASA's mission for Earth Sciences. Technologies supporting management, storage, search and retrieval of very large, distributed, geo-spatial earth science data volumes are urgently needed to cope with the impending data survivability crisis. For instance, the EOSDIS archive data growth rate is currently about 1 petabyte/year. NRC's Committee on Coping with Increasing Demands on Government Data Centers recently made a series of recommendations on which emerging technologies can help data centers meet user needs and build and maintain the long-term record of environmental change. In this proposal, we propose to design, develop and prototype Extrieva - a low cost scalable Archive Storage Management System innovation, which embraces several of the NRC technology recommendations. In particular, Extrieva is a disk-based solution as assessed by NRC to be now competitive with tape for long-term, archival-class storage. Moreover, with its self-management and automation features implemented over commodity Linux clusters using distributed indexing and load balancing algorithms, Extrieva offers a low cost scalable solution with unprecedented ease of management addressing the needs of EOSDIS' diverse global users base.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Archivas Inc.	Supporting Organization	Industry	Waltham, Massachusetts

Primary U.S. Work Locations	
Maryland	Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Paul K Martin

Principal Investigators:

Michael C Wholley

Ian D Schmidt

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
 - └ TX11.4 Information Processing
 - └ TX11.4.5 Cyber Infrastructure